

Docket No. 434-263

Patent



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

DAVID A. ATWOOD

Serial No.: 10/774,619

Filed: February 9, 2004

For: CATALYTIC CLEAVAGE OF PHOSPHATE  
ESTER BONDS BY BORON CHELATES

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:  
: Group Art Unit: 1626  
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: Examiner: Solola, Taofiq A.  
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**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant discloses to the Examiner under 37 CFR 1.56, and 37 CFR 1.97-1.98, as revised (1135 OG 13) and effective March 16, 1992, the information listed on the attached form PTO-1449. This information may be found to be material to this invention under the current applicable patent law and as interpreted by the USPTO Rules, as cited above. Review and consideration of the listed references/information during substantive examination of this application is respectfully requested.

Applicant specifically emphasizes that this statement, and/or the act of providing copies of these references, is not to be construed as an admission that all or any of the

references are prior art to the specific invention disclosed and claimed.

Also, nothing in this statement is to be construed as a representation that this is the only material information to be found, or the best. It, however, is the only information known to the applicant at this time that is believed to meet the "materiality standard" of the law. If additional qualifying references or other information is discovered in the future, it will be submitted promptly to fulfill applicant's continuing duty of disclosure under 37 CFR 1.56.

Respectfully submitted,

**KING & SCHICKLI, PLLC**



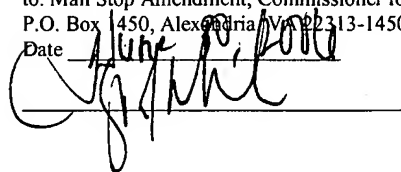
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/774,619
		Filing Date	February 9, 2004
		First Named Inventor	David A. Atwood
		Art Unit	1626
		Examiner Name	Taofiq A. Solla
Sheet 1	of 3	Attorney Docket Number	434-263

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	1	DAVID, MICHAEL D. et al., Accelerated hydrolysis of industrial organophosphates in water and soil using sodium perborate; Environ. Pollution 105 (1999) 121-128.	
	2	OLIVANEN, MIKKO et al., Kinetics and Mechanisms for the Cleavage and Isomerization of the Phosphodiester Bonds of RNA by Bronsted Acids and Bases; Chem. Rev. 1998, 98, 961-990	
	3	BLASKO, ANDREI et al., Recent Studies of Nucleophilic, General-Acid, and Metal Ion Catalysis of Phosphate Diester Hydrolysis; Acc. Chem. Res. 1999, 32, 475-484.	
	4	BAZZICALUPI, CARLA et al., Carboxy and Diphosphate Ester Hydrolysis by a Zinc Complex with a New Alcohol-Pendant Macrocyclic; Inorg. Chem. 1999, 38, 4115-4122.	
	5	GAJDA, TAMAS et al., Highly Efficient Phosphodiester Hydrolysis Promoted by a Dinuclear Copper (II) Complex; Inorg. Chem., 2001, 40, 4918-4927.	
	6	JONES, DAVID R. et al., Enhanced Base Hydrolysis of Coordinated Phosphate Esters: The Reactivity of an Unusual Cobalt (III) Amine Dimer; J. Am. Chem. Soc. 1984, 106, 7807-7819	
	7	VANCE, DAVID H. et al., Functional Group Convergency in a Binuclear Dephosphorylation Reagent; J. Am. Chem. Soc., 1993, 115, 12165-12166.	
	8	McCUE, KEVIN P. et al., Hydrolysis of a Model for the 5'-Cap of mRNA by Dinuclear Copper (II) and Zinc (II) Complexes...	
		...Rapid Hydrolysis by Four Copper (II) Ions; Inorg. Chem. 1999, 38, 6136-6142.	
	9	SCRIMIN, PAOLO et al., Comparative Reactivities of Phosphate Ester Cleavages by Metallomicelles, Langmuir 1996, 12, 6235-6241.	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.  
1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.  
This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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		<b>Examiner Name</b>	Taogiq A. Solola
		<b>Attorney Docket Number</b>	434-263
Sheet	2	of	3

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	10	KAMINSKAIA, NATALIA V., et al., Reactivity of u-Hydroxodizinc (II) Centers in Enzymatic Catalysts through Model Studies; Inorg. Chem. 2000, 39, 3365-3373	
	11	YAMAMI, MASAKO et al., Macrocyclic Heterodinuclear ZnII PbII Complexes: Synthesis, Structures and Hydrolytic Function	
		toward Tris(p-nitrophenyl) Phosphate; Inorg. Chem. 1998, 37, 6832-6838	
	12	CHAPMAN, WILLIAM H. JR. et al., Selective Hydrolysis of Phosphate Esters, Nitrophenyl Phosphates and UpU,	
		by Dimeric Zinc Complexes Depends on the Spacer Length; J. Am. Chem. Soc. 1995, 117, 5462-5469	
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	14	BENTON, F.L. et al., The Cleavage of Ethers with Boron Bromide; Contrib. from Chemical Labs of U. of Notre Dame, May 1942; Vol. 64 p. 1128	
	15	KIM, SUNGGAK et al., Direct Conversion of Silyl Ethers into Alkyl Bromides with Boron Tribromide, J. Org. Chem. 1988, 53, 3111-3113	
	16	WEI, PINGRONG et al., Synthesis and Structure of Salen-Supported Borates Containing Siloxides, Inorg. Chem. 1999, 38, 3914-3918	
	17	BROWN, DAVID S., An Intramolecularly Stabilized Arylboron Dibromide, Heteroatom Chem. Vol. 9, No. 1, 1998, 79-83	

<b>Examiner Signature</b>		<b>Date Considered</b>	
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Sheet 3	of 3	Attorney Docket Number	434-263

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	18	YANG, YU-CHU, Chemical Detoxification of Nerve Agent VX, Acc. Chem. Res. 1999, 32, 109-115	
	19	EMBER, LOIS, Destroying chemical arms: No easy task, C&EN Aug. 30, 1999, 11	
	20	HILEMAN, BETTE, EPA Cuts Use of Common Pesticide, C&EN June 12, 2000, 11	
	21	GOODMAN, STEVEN N. et al., A Practical Synthesis of a,B-Unsaturated Imides, Useful Substrates For Asymmetric Conjugate Addition Reactions, Adv. Synth. Catal. 2002, 344, No. 9.	

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